STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0129224
Owner:	Bioproducts, Inc.
Address:	320 Springside Drive, Fairlawn, OH 44333-2435
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Bioproducts, Inc.
Address:	117 North Morgan, Aurora, MO 65605
Legal Description:	See page 2
Receiving Stream:	See page 2
First Classified Stream and ID:	See page 2
USGS Basin & Sub-watershed No.:	See page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

All Outfalls - No Discharge Facility - SIC #2077
Land application of pet food processing wastewater and sludge. Storage is provided by permittee.
Design flow is 8,000 gallons per day
Actual flow is 4,500 gallons per day.
Design sludge production is 309 dry tons per year.
Actual sludge production is 183 dry tons per year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

June 13, 2003
Effective Date

Stephen M. Mahfood, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

June 12, 2008
Expiration Date

Jim Hull, Director of Staff, Clean Water Commission

MO 780-0041 (10-93)

FACILITY DESCRIPTION (continued)

Outfall #001
Legal Description: S ½, Sec. 19, T25N, R25W, Barry County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (P) (03165)
USGS Basin & Sub-watershed No.: (11070207–10001)

Outfall #002
Legal Description: NW ¼, Sec. 27, T26N, R26W, Lawrence County
Receiving Stream: Unnamed Tributary to the Spring River
First Classified Stream and ID: Spring River (C) (03165)
USGS Basin & Sub-watershed No.: (11070207–10001)

Outfall #003
Legal Description: SE ¼, NW ¼, Sec. 6, T25N, R25W, Barry County
Receiving Stream: Unnamed Tributary to Little Crane Creek
First Classified Stream and ID: Little Crane Creek (C) (03165)
USGS Basin & Sub-watershed No.: (11010002–50004)

Outfall #004
Legal Description: S ½, Sec. 6, T25N, R25W, Barry County
Receiving Stream: Unnamed Tributary to Little Crane Creek
First Classified Stream and ID: Little Crane Creek (C) (03165)
USGS Basin & Sub-watershed No.: (11010002–50004)

Outfall #005
Legal Description: SE ¼, Sec. 11, T25N, R26W, Lawrence County,
Receiving Stream: Unnamed Tributary to Calton Creek
First Classified Stream and ID: Calton Creek (C) (02392)
USGS Basin & Sub-watershed No.: (11010002–60002)

Outfall #006
Legal Description: SW ¼, Sec. 21, T27N, R26W, Lawrence County,
Receiving Stream: Unnamed Tributary to Honey Creek
First Classified Stream and ID: Honey Creek (P) (03169)
USGS Basin & Sub-watershed No.: (11070207–10001)

Storage Tanks:
Storage volumes 35,000 gallons
10,000 gallons

Days of Storage: 10 days

Land Application:
Sludge Volume /year: 1,650,000 gallons; 183 dry tons/year

Application areas: 624 acres at design loading

Application rates/acre: 2,645 gallons/year
.3 dry tons/year

Field slopes: less than 3 percent

Vegetation: hay/grass

Application rate is based on plant available nitrogen (PAN) loading rate.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
All Outfalls - Sludge Land Applied (Notes 1, 3 & 4)						
Total Kjeldahl Nitrogen as N	mg/kg	*			once/quarter	grab
Ammonia Nitrogen as N	mg/kg	*			once/quarter	grab
Nitrate/Nitrite as N	mg/kg	*			once/quarter	grab
Oil and Grease	mg/kg	*			once/quarter	grab
Total Phosphorus as P	mg/kg	*			once/quarter	grab
Chlorides	mg/kg	250			once/quarter	grab
Total Sodium	mg/kg	100			once/quarter	grab
pH – Units	SU	**			once/quarter	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2003.						
All Outfalls - Soil Monitoring (Notes 2 & 5)						
Total Kjeldahl Nitrogen as N	mg/kg	*			once/year	24 hr. composite
Chlorides	mg/kg	*			once/3 years	24 hr. composite
Oil and Grease	mg/kg	*			once/3 years	24 hr. composite
Available Phosphorus as P (Bray 1-P method)	mg/kg	*			once/3 years	24 hr. composite
Total Sodium	mg/kg	*			once/3 years	24 hr. composite
pH Units	SU	**			once/3 years	24 hr. composite
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE January 28, 2003. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

MO 780-0010 (8/91)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only.

** pH is measured in pH units and is not to be averaged. The pH is to be maintained at or above 6.0 pH units.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 1 - **No-discharge facility requirements**. Sludge shall be stored and land applied during suitable conditions so that there is no-discharge from the storage site or land application site.

Note 2 - Records shall be maintained and summarized into an annual operating report which shall be submitted by January 28th of each year. See Special Conditions.

Note 3 - Sludge that is land applied shall be sampled at the storage basin or application vehicle.

Note 4 - Monitor once per quarter in the months of March, May, July and October.

Note 5 - Sample the top 6 to 12 inches of soil. Composite samples shall be collected from each land application site and each soil type in accordance with University of Missouri publication G9110, Sampling Your Soil for Testing. Testing shall conform to Soil Testing Procedures for North Central Region (North Dakota Agricultural Experiment Bulletin 499-Revised); Methods of Soil Analysis, American Society of Agronomy, Inc; Soil Testing and Plant Analysis, Soil Science Society of America Inc; EPA Methods; or other methods approved by the department.

C. SPECIAL CONDITIONS

1. Report as no-discharge when a discharge does not occur during the report period.

2. Outfalls must be marked in field and on the topographic site map submitted with the permit application.

3. Water Quality Standards
   a. Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
   b. General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
      (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
      (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
      (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
      (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
      (5) There shall be no significant human health hazard from incidental contact with the water;
      (6) There shall be no acute toxicity to livestock or wildlife watering;
      (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
      (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

C. SPECIAL CONDITIONS (continued)

4. This permit may be reopened and modified, or alternatively revoked and reissued, to:
   (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
   (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

   The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

5. Changes in Discharges of Toxic Substances

   The permittee shall notify the Director as soon as it knows or has reason to believe:
   a. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
      (1) One hundred micrograms per liter (100 ug/L);
      (2) Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
      (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
      (4) The level established in Part A of the permit by the Director.
   b. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

6. Annual Report

   The annual report shall be submitted by January 28 of each year for the previous growing season from October 1 through September 30 or an alternate 12 month period approved by the Department and listed in the Operation and Maintenance Manual. This report shall be submitted using report forms approved by the Department and shall include a summary of the monitoring and record keeping required by the Special Conditions and Standard Conditions of this permit. The report shall include the following:

   a. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
   b. The number of days the facility has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
   c. A summary of the land application operations, the number of days of land application for each month, the total gallons and dry tons applied, the total acres used, crops grown, crop yields per acre, the application rate in gallons/acre per day and gallons and dry tons/acre for the year, the monthly and annual precipitation received at the facility and summary of testing results.

C. SPECIAL CONDITIONS (continued)

7. Sludge Land Application System – Industrial Sludge

a. Land Application Design – No-Discharge. Design and operation shall be in accordance with 10 CSR 20-8.020(15). Permittee shall operate the land application system in accordance with the design parameters listed in the Facility Description section of this permit. Sludge shall be stored and land applied during suitable conditions so that there is no-discharge from the storage site or land application site.

b. Metals Loading Limitations. Application of trace metals shall not exceed the concentrations and loading limits for each metal as specified in University of Missouri publication WQ 425, revised 4/95. When metals concentrations exceed values in Table 2 of WQ-425, the remaining metals capacity of the site will be calculated each time biosolids are spread. When the cumulative limit is reached, biosolids addition will be halted.

c. Storm Water Runoff. There shall be no contaminants discharged from the land application sites by storm water that cause violation of the Water Quality Standards rules for general criteria and specific criteria under 10 CSR 20-7.031.

d. Discharge Reporting. Any unauthorized discharge from storage, treatment or land application system shall be reported to the department as soon as possible but always within 24 hours.

e. Land Application Site Locations. The permittee shall land apply only to suitable sites located within the overall property boundaries and descriptions listed in the permit application and approved Operation and Maintenance Manual. Permittee requests for additional sites including non-owned property must follow permit modification procedures prior to land application. To request additional sites, the permittee should submit a revised application Form A and R, mailing addresses for first down stream land owners of each site, topographic maps and other pertinent information for the proposed sites.

f. Saturated/Frozen Conditions. There shall be no land application during frozen, snow covered, or saturated soil conditions. There shall be no application on days when there is observation by operator of an imminent or impending rainfall event. An on-site visual investigation of the field’s soil moisture condition, followed by testing of the soils, will be made to determine whether land application can occur. The visual and soil test procedures will be reviewed and approved by the department as part of the Operation and Maintenance Manual.

g. Buffer Zones. There shall be no land application within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal and within 150 feet of dwelling. For surface application, there shall be no land application within 100 feet of gaining streams (Class P and C classified streams listed in Water Quality Standard rule under 10 CSR 20-7.031); 50 feet of wet weather gaining streams and tributaries (unclassified streams); or 50 feet of the property line.

h. Application Equipment. The application system shall be operated so as to provide uniform distribution of wastes over the entire land application site. Land application shall occur only during daylight hours.

i. Equipment Checks during Land Application. The application system and application site shall be visually inspected at least once/hour during land application to check for equipment malfunctions and runoff from the application site.

j. Fact Sheets. Fact sheets shall be prepared for each application site giving the following information. Land owners name, address, telephone number, acreage, designation of buffer zones around limiting features, nutrient content of sludge and the application rates with the maximum per year.

k. Daily Log Sheets. Daily log sheets shall be prepared and kept for each application site showing amounts of sludge applied per acre, dates of application, nutrients applied, and crop yields.

C. SPECIAL CONDITIONS (continued)

8. Nutrient Management

a. Nitrogen applications shall not exceed the Plant Available Nitrogen (PAN) approach.
b. If a crop is not harvested, the PAN rate shall not exceed 40lbs/acre/year and grass vegetation must be maintained on the site.
c. PAN calculations, application amounts, crop yields and crop removal rates shall be listed in the annual report.

9. Operation and Maintenance Manual

The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems. The O&M Manual shall be reviewed and updated at least every five years. Copies of the O&M Manual and subsequent revisions shall be submitted to the Regional Office for review and approval. The O&M Manual shall include, but not limited to, the following:

a. Detailed topographic maps of the property showing all land application fields including the identification numbers for each field and tract. Each field and tract shall have an identification number for record keeping and tracking purposes. The maps shall also indicate separation distances from streams, ponds, wells, and property lines and shall indicate areas exceeding 10 percent slopes and other areas that are not suitable for land application. The maps shall also include the location of all buildings, pump stations, land application pipelines, land application riser connections, underground terrace outlets, domestic wastewater treatment systems and other waste handling units.
b. Start up procedures, field supervision during operation, and shutdown procedures of irrigation equipment.
c. Procedures for providing the separation distances required by this permit and as specified in 10 CSR 20-8.020 (15) (B).
d. Sample collection, preservation, and testing procedures.
e. Procedures for determining Plant Available Nitrogen (PAN) loading rates.
f. Record keeping forms for tracking each field, tract and storage structure. This shall include testing results, crops, yields, and application rates for each field. Records for each field and tract shall include dates and amounts applied.
g. A procedure for promptly reporting spills or discharges to the permittee plant manager and to DNR.
h. A procedure for recording repair work on application equipment and irrigation lines to include the reason for the repair work and the material used for the repair.
i. A procedure for routine visual inspections of the storage and application system for overflows or other operational problems.
l. A procedure to assure that all appropriate employees are properly trained in operation of the waste systems and are familiar with the O&M Manual.
m. Procedure for adjusting application periods and rates based on soil infiltration capacity, soil moisture content, and percent of soil field (saturation) capacity.
n. List of number, size, and capacity of waste removal, hauling and land application equipment.
o. Number of suitable days each year when land application will occur based on historical one in ten year wettest precipitation and capacity of spreading equipment and personnel available.
p. Procedure to avoid application if there is a weather forecast for significant precipitation within 24 hours.
q. Nutrient Management Plan.